

Checklist

January 1974, CHEMTECH

International Chemical Technologists

6
☐

American charisma really isn't enough to guarantee success in working with technologists from other lands. **Voris** outlines what it does take.

Correlating Data

9
☐

It's said that a proper technologist spends equal amounts of time figuring out what he's going to do, doing it, and then figuring out what he's done. **Rowe** focuses on the last step in a piece that would be humorous were it not so sad.

Qualities of Eminence: Part III. Breadth of Interest

18
☐

Siebring and Schaff again hold the mirror up for us this time by examining the creative versatility of eminent chemists.

Management Looks at Commercial Development

24
☐

It always helps to know what the boss thinks. **Wilson** reports what CPI corporate presidents think about their commercial development arms.

Methanol—The "New Fuel" from Coal

26
☐

Methanol burns, and burns well: clean, high octane and now, when made from coal, perhaps cheaply. Although **Mills and Harney** focus on the last, their article implies much about the merits of methanol as a chemical raw material.

Spunbonded Sheet Products

32
☐

The process of going from a polymer melt directly to a "fabric" is what spun bonding is all about. **Hentschel** discusses properties and uses of spun-bonded materials.

Sorbitol and Mannitol

42
☐

Now here are some versatile raw materials that according to **Wright** really are available.

Enzyme Engineering Part II. Materials for Immobilized Enzyme Reactors

47
☐

Now that **Vieth and Venkatasubramanian** have outlined what can be done with immobilized enzymes (CHEMTECH, Nov. '73), they here describe how to make them.

Polymer Theory of Silicate Melts

56
☐

There are inorganic polymers, too. **Masson** recognizes this fact in using organic theory to understand them.

1 The Industrial Chymist

☐ In which the social psychology of energy is looked at through technical eyes.

3 Energy Watch

☐ In which **King** inaugurates his monthly column.

15 Books

☐ In which "Malice in Blunderland" is precised.

64 Write On

☐ In which questions are raised about uses of clinical lab tests, meetings and trademarks.

2 Brownstein's Closet

☐

IBC The Last Word

☐ In which **Layloff and Linenweber** tell how St. Louis chemists play cops and robbers.

5 View from the Top

☐ In which **Slabaugh**, MCA's Teacher of the Year, criticizes his craft.

63 Out in the Plant

☐ In which inventors are offered an easy new way to protect themselves.

16 Random Samplings

☐ In which **Hahn** answers the question "What's the difference?"

Send all new and renewal subscriptions with payment to: Office of the Controller, 1155 16th St., N.W., Washington, D.C. 20036. Subscriptions should be renewed promptly to avoid a break in the series.

All correspondence and telephone calls regarding changes of address, claims for missing issues, subscription service, the status of records and accounts should be directed to: Manager, Membership and Subscription Services, American Chemical Society, P.O. Box 3337, Columbus, Ohio 43210.

On changes of address, include both old and new addresses with zip code numbers, accompanied by mailing label from a recent issue. Allow four weeks for change to become effective.

Claims for missing numbers will not be allowed (1) if loss was due to failure of notice of change in address to be received before the date specified above, (2) if received more than sixty days from date of issue plus time normally required for postal delivery of journal and claim, or (3) if the reason for the claim is "issue missing from files."

SEND CORRESPONDENCE ON EDITORIAL MATTERS TO:
DR. B. J. LUBEROFF, EDITOR
CHEMICAL TECHNOLOGY
Bassett Building, Summit, N.J. 079
(201) 273-4923

SUBSCRIPTION RATES: *Nonmembers*, 1 year \$18.00 plus \$4.00 postage in Canada and PAUS; \$5.00 for all other countries.

Members, 1 year \$9.00 plus postage above. *Students*, 1 year \$4.50 plus postage above. Single copies and microfilm available from Special Issues Sales, 1155 16th St., N.W., Washington, D.C. 20036.

Published monthly by the American Chemical Society from 20th and Northampton Sts., Easton, Pa. 18042.

Second Class postage paid at Washington, D.C. and at additional mailing offices. Air freight rates are available on request.

The American Chemical Society assumes no responsibility for the statements and opinions advanced by contributors to its publications.

© Copyright 1974 by the American Chemical Society.

CHEMTTECH

The Innovator's Magazine JANUARY 19



AGUSTANA LIBRARY
UNIVERSITY OF ALBERTA

Checklist

February 1974, CHEMTECH

- | | | | |
|--|------------|--------------------------|--|
| Milton Friedman Responds | 72 | ☐ | If there is one current theme that bothers economist Friedman , it is the concept of corporate social responsibility. In this unusual interview his logic on this and related subjects comes through lucidly. |
| Thin-Layer Chromatography—Yesterday, Today, and Tomorrow | 79 | ☐ | It's amazing that an analytical technique that employs such simple apparatus and theory could have lain dormant for half a century; but, until Kirchner came along, that's what happened to TLC. Here's what's happened since; and what's yet to come. |
| Thinking on Thinking Part I | 83 | ☐ | The brain is a wonderful instrument, but it does have serious limitations. Here Pacifico examines these limitations so that we can compensate for them and minimize their adverse affects. |
| Copolymers, Polyblends, and Composites | 90 | ☐ | Plastic Systems have reached the maturity we associate with metals whose properties are altered by alloying, joining, and the like. The state of the plastics art will be the subject of a major symposium here previewed by its organizer, Platzer . |
| Energy vs. Environment A Conflict in Congress | 96 | ☐ | The energy crunch raised a threat in Congress to environmental gains; Gushee tells us why all is still well and how come. |
| Painting with Polymer Powders | 99 | ☐ | What have Nylon 11, FEP, and poly phenylene sulfide in common? Only that they and many other materials have entered the surface coating field even though they are insoluble. Conte tells how it's done. |
| Chemistry at High Temperature Part I | 104 | ☐ | Putting energy into molecules simply by heating them is one of the oldest yet least understood ways to bring about chemical reaction. Fields and Meyerson put a good deal of order into this otherwise scrambled area. |
| The Catalytic Liquid Membrane Reactor—Making Acetaldehyde | 111 | ☐ | Here's another case of a cure in search of a disease. Imagine gaseous reactant bubbles of a catalytic composition each surrounded by a liquid membrane, all swimming in an immiscible, continuous phase of a solvent for product. Wolynic and Ollis demonstrate such a system for the ethylene to acetaldehyde conversion and suggest other uses. |
| Computerized Molecular Modeling | 118 | ☐ | Building and examining molecules in a computer is fast coming of age, according to Still and Lewis . |

☐ **65 The Industrial Chymist**
In which an ACS Student Division is proposed

☐ **66 View from the Top**
In which **Roebling** addresses her pet peeve

☐ **67 Energy Watch**
In which Vice President **Ford** reveals his way of thinking about things of significance

☐ **70 Brownstein's Closet**

☐ **110 Out in the Plant**
In which **Rocca** shares PPG's Check List for energy conservation teams

☐ **124 Write on**
In which a new society and a new engine are proposed and Proportional Policing and clinical laboratories are criticized

☐ **126 Books**
In which biomedical materials are assessed

☐ **1BC The Last Word**
In which *Punch* formulates research policy

Send all new and renewal subscriptions with payment to: Office of the Controller, 1155 16th St., N.W., Washington, D.C. 20036. Subscriptions should be renewed promptly to avoid a break in the series.

All correspondence and telephone calls regarding changes of address, claims for missing issues, subscription service, the status of records and accounts should be directed to: Manager, Membership and Subscription Services, American Chemical Society, P.O. Box 3337, Columbus, Ohio 43210.

On changes of address, include both old and new addresses with zip code numbers, accompanied by mailing label from a recent issue. Allow four weeks for change to become effective.

Claims for missing numbers will not be allowed (1) if loss was due to failure of notice of change in address to be received before the date specified above, (2) if received more than sixty days from date of issue plus time normally required for postal delivery of journal and claim, or (3) if the reason for the claim is "issue missing from files."

SEND CORRESPONDENCE ON EDITORIAL MATTERS TO:
DR. B. J. LUBEROFF, EDITOR
CHEMICAL TECHNOLOGY
Bassett Building, Summit, N.J. 079
(201) 273-4923

SUBSCRIPTION RATES: *Nonmembers*, 1 year \$18.00 plus \$4.00 postage in Canada and PUAS; \$5.00 for all other countries. 3 years \$40.00 plus \$12.00 postage in Canada and PUAS; plus \$15.00 postage for all other countries.

Members, 1 year \$9.00 plus postage above. *Students*, 1 year \$4.50 plus postage above. Single copies and microfilm available from Special Issues Sales, 1155 16th St., N.W., Washington, D.C. 20036.

Published monthly by the American Chemical Society from 20th and Northampton Sts., Easton, Pa. 18042.

Second Class postage paid at Washington, D.C. and at additional mailing offices. Air freight rates are available on request.

The American Chemical Society assumes no responsibility for the statements and opinions advanced by contributors to its publications.

© Copyright 1974 by the American Chemical Society.

CHEMTech

The Innovator's Magazine **FEBRUARY**



Painting with polymer powders

Checklist

March 1974, CHEMTECH

- | | | |
|---|--------------------------|--|
| The Engineering Scientist as Scholar and Humanitarian | 131 | Any editorial comment here on Julian's Klopsteg Lecture would truly be gilding a lily. |
| ☐ | ☐ | |
| Raw Materials for Chemistry | 135 | A Janus view of past and future of this suddenly critical area by Davies . |
| ☐ | ☐ | |
| Pharmaceutical Agents for Treating Depression | 140 | Kline and Shopsin characterize depression as the most ubiquitous malady. Here is their view of its chemotherapy. |
| ☐ | ☐ | |
| Thinking on Thinking Part II | 147 | Here Pacifico extends his examination of these limitations so that we can compensate for them and minimize their adverse effects. |
| ☐ | ☐ | |
| How to Write 148 Books without Really Trying | 153 | One-man-literature-explosion Asimov tells how he does it. |
| ☐ | ☐ | |
| The Professional Chemist in Industry: A Graduate Course at the University of Akron | 156 | Now there's a how-to course on what chemists need to know besides Chemistry. Its creator Kennedy tells how it works. |
| ☐ | ☐ | |
| A Perpetual Methane Economy—Is It Possible? | 161 | Why not use the sun to grow stuff and then let bugs turn it into methane fuel? Klass sees no reason not to try. |
| ☐ | ☐ | |
| Structured Polymer Properties | 169 | Everyone knows that macro properties depend on molecular architecture but Samuels ties the two together quantitatively. |
| ☐ | ☐ | |
| Instruments and Methods for Determining Trace Metals | 178 | Chan and Leh treatise on looking for environmental contaminants provides a fine overview of modern analytical methods. |
| ☐ | ☐ | |
| An Organic Chemist's Approach to Electroorganic Synthesis | 184 | Consider the electron—it's a dandy reagent, says Weinberg . |
| ☐ | ☐ | |

129 The Industrial Chymist

☐

190 Energy Watch

☐

in which **King** looks at England and lasers for uranium enrichment

IBC The Last Word

☐

in which **Shuttleworth** shows how to run a household on its wastes

130 View from the Top

☐

in which **Senator Gravel** justifies solar energy development

183 Write On

☐

in which **Prof. Cook** views radioactive waste and **Mr. Leiserson** talks about product development and money

191 Heart Cut

☐

né **Brownstein's** Closet

Send all new and renewal subscriptions with payment to: Office of the Controller, 1155 16th St., N.W., Washington, D.C. 20036. Subscriptions should be renewed promptly to avoid a break in the series.

All correspondence and telephone calls regarding changes of address, claims for missing issues, subscription service, the status of records and accounts should be directed to: Manager, Membership and Subscription Services, American Chemical Society, P.O. Box 3337, Columbus, Ohio 43210.

On changes of address, include both old and new addresses with zip code numbers, accompanied by mailing label from a recent issue. Allow four weeks for change to become effective.

Claims for missing numbers will not be allowed (1) if loss was due to failure of notice of change in address to be received before the date specified above, (2) if received more than sixty days from date of issue plus time normally required for postal delivery of journal and claim, or (3) if the reason for the claim is "issue missing from files."

SEND CORRESPONDENCE ON EDITORIAL MATTERS TO:
DR. B. J. LUBEROFF, EDITOR
CHEMICAL TECHNOLOGY
Bassett Building, Summit, N.J. 079
(201) 273-4923

SUBSCRIPTION RATES: *Nonmembers*, 1 year \$18.00 plus \$4.00 postage in Canada and PUAS; \$5.00 for all other countries. 3 years \$40.00 plus \$12.00 postage in Canada and PUAS; plus \$15.00 postage for all other countries.

Members, 1 year \$9.00 plus postage above. *Students*, 1 year \$4.50 plus postage above. Single copies and microfilm available from Special Issues Sales, 1155 16th St., N.W., Washington, D.C. 20036.

Published monthly by the American Chemical Society from 20th and Northampton Sts., Easton, Pa. 18042.

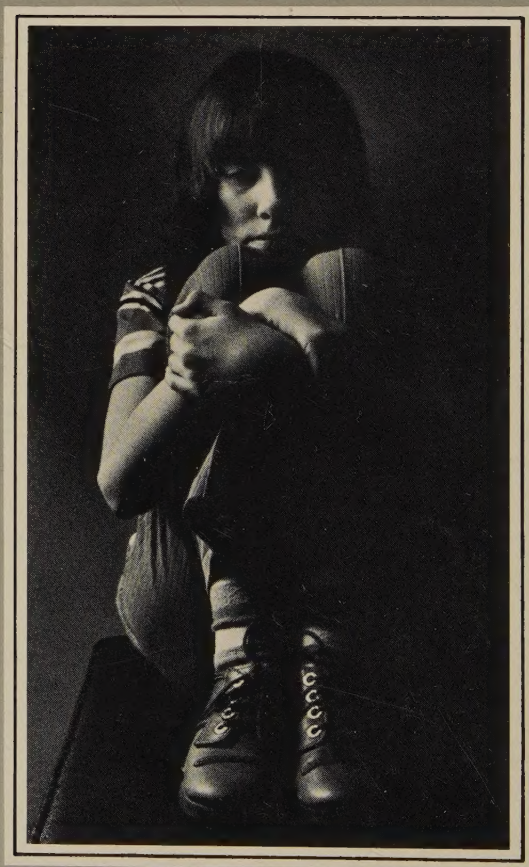
Second Class postage paid at Washington, D.C. and at additional mailing offices. Air freight rates are available on request.

The American Chemical Society assumes no responsibility for the statements and opinions advanced by contributors to its publications.

© Copyright 1974 by the American Chemical Society.

CHEMTech

The Innovator's Magazine MARCH 1974



Antidepressant Drugs

Checklist

APRIL 1974, CHEMTECH

- | | | | |
|---|------------|--------------------------|--|
| Limitations of the Expert | 198 | ☐ | Advocacy exploration coupled with consensus decision-making is what democracy is all about. The inevitable conflicts have been with us in technology since before Laski wrote about them in 1930. |
| The New Reality and Its Practitioners | 204 | ☐ | Alstadt , starting with the observation that in one technocracy the professional societies train the legislators, shares thoughts on how best to wend our way into the future. |
| Prospects for the Fermentation Industries, 1974-1983 | 210 | ☐ | How much chemists will be able to delegate to microorganisms is prognosticated by Perlman after summarizing where we are. |
| Nontechnical Incompetence | 217 | ☐ | What the Akron ACS Section does to keep members sharp is reviewed by Rader and Kokoropoulos |
| Supervisor Training—The Ideal and the Reality | 220 | ☐ | What makes for good supervision? Imberman has data to demonstrate his answer. |
| Supply/Demand and Process Technology | 225 | ☐ | After putting process R&D into perspective, Sherwin tells us what he sees on the horizon for such staples as Glycol, VCM, Maleic acid, and others. |
| Underground Gasification of Coal | 230 | ☐ | When the Bureau of Mines wanted an appraisal of "retorting" <i>in situ</i> coal to gas, they asked Nadkarni, Bliss, and Watson . This is what they learned. |
| Auto Safety and Urethane Uses | 238 | ☐ | Materials markets opened by the new car safety standards are nowhere better exemplified than in the case of urethane elastomers. Hoodbhoy illustrates by reviewing requirements. |
| Chemistry at High Temperature Part II | 241 | ☐ | Fields and Meyerson continue their treatise on how organics pyrolyze to useful products. |
| Test Your Test: It's Cruder Than You Think! | 248 | ☐ | "A word means whatever I choose," said the Rabbit. "So can numerical test results," says Mitton . |

193 The Industrial Chymist

☐ in which **Laski's** expert (vide supra) is defended.

195 Heart Cut

☐ in which authors **Pilato, McGrath, and Reichle** tell what's new and intriguing.

194 View from the Top

☐ in which **Senator Moss** sees the Government role as cure rather than prevention.

203 Guest Editorial

☐ in which **Overberger** looks at the course of our profession.

254 Out in the Plant

☐ in which **Gasser** shows how solubility of solids can be altered unexpectedly.

196 Energy Watch

☐ in which **King** calls us paranoid.

OBC The Last Word

☐ in which **Burt** recalls sweet chemistry.

197 Write On

☐ in which we have jobs, fuels, and a letter from Peking.

247 Books

☐ in which **Energy Under the Oceans** and **New Concepts in Contraception** are reviewed.

Send all new and renewal subscriptions with payment to: Office of the Controller, 1155 16th St., N.W., Washington, D.C. 20036. Subscriptions should be renewed promptly to avoid a break in the series.

All correspondence and telephone calls regarding changes of address, claims for missing issues, subscription service, the status of records and accounts should be directed to: Manager, Membership and Subscription Services, American Chemical Society, P.O. Box 3337, Columbus, Ohio 43210.

On changes of address, include both old and new addresses with zip code numbers, accompanied by mailing label from a recent issue. Allow four weeks for change to become effective.

Claims for missing numbers will not be allowed (1) if loss was due to failure of notice of change in address to be received before the date specified above, (2) if received more than sixty days from date of issue plus time normally required for postal delivery of journal and claim, or (3) if the reason for the claim is "issue missing from files."

SEND CORRESPONDENCE ON EDITORIAL MATTERS TO:
DR. B. J. LUBEROFF, EDITOR
CHEMICAL TECHNOLOGY
Bassett Building, Summit, N.J. 07901
(201) 273-4923

SUBSCRIPTION RATES: *Nonmembers*, 1 year \$18.00 plus \$4.00 postage in Canada and PUAS; \$5.00 for all other countries. *3 years* \$40.00 plus \$12.00 postage in Canada and PUAS; plus \$15.00 postage for all other countries.

Members, 1 year \$9.00 plus postage above. *Students*, 1 year \$4.50 plus postage above. Single copies and microfilm available from Special Issues Sales, 1155 16th St., N.W., Washington, D.C. 20036.

Published monthly by the American Chemical Society from 20th and Northampton Sts., Easton, Pa. 18042.

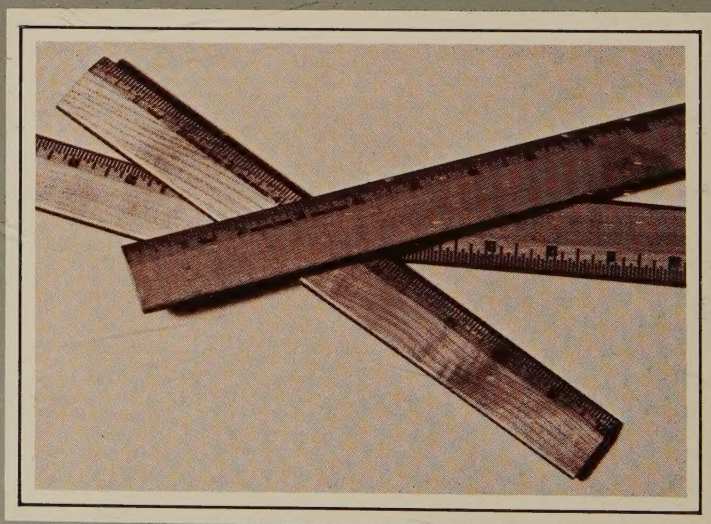
Second Class postage paid at Washington, D.C. and at additional mailing offices. Air freight rates are available on request.

The American Chemical Society assumes no responsibility for the statements and opinions advanced by contributors to its publications.

© Copyright 1974 by the American Chemical Society.

CHEMTech

The Innovator's Magazine APRIL 1974



Test your test

Checklist

May 1974, CHEMTECH

Solar Energy—How Soon?	264	O'Connor is impatient and she has justification here revealed in all its glory.
☐	☐	
Problems of the Chemical Industry Today	268	Of course we have problems when 90% of all organic chemicals are derived from 5% of total world petroleum flow. Montet views this and related problems from France but suggests a global course of action.
☐	☐	
An Entrepreneur's View of Entrepreneurship	274	Is your outfit innovative? Springborn shows how to tell and defines results of positive and negative answers.
☐	☐	
Fall-Out—and Its Use	278	In research things never come out the way we plan. But sometimes the something else that does come out . . . well, Berg thinks it could make a buck anyway.
☐	☐	
Students Teach Their Teachers	282	Participative Management is all the rage in colleges too. Student evaluation of teachers is one symptom. Here Siebring evaluates the evaluations.
☐	☐	
The Consumer Product Safety Act and Its Administration	285	Though most "chemicals" aren't consumer products the new law that covers them could be a bellwether. Besides one is not sure how far back in a product's family tree liability can go. White's treatise is thus moot.
☐	☐	
Aerosol Hairsprays	288	When, in 20 years, a world market goes from nil to a billion annual units there may be something to be learned from it. Linke examines such a market.
☐	☐	
Fiber Failure and Fatigue	292	Bunsell's contribution is in the nature of problem identification. We can make things work only when we understand why they don't.
☐	☐	
Pattern Recognition Techniques for Predicting Performance	300	Classical multifactor statistical analysis now has a co-worker—computerized visualization of point arrays in <i>n</i> -dimensional space. Kowalski illustrates a few applications of this new technique and suggests others.
☐	☐	
Knotted, Twisted, and Interlocked Molecules	305	Remember Kekule's dream? Well, suppose two crossed snakes bit their tails simultaneously; or suppose one got his tail while doing a half twist. Eckert reviews the results on a molecular level.
☐	☐	
Enzyme Engineering Part III. Properties of Immobilized Enzyme Systems	309	Sales of the combined reprint of this series by Vieth and Venkatasubramanian has been CHEMTECH's most successful to date.
☐	☐	

257 The Industrial Chymist
☐ in which bosses get report cards.

263 Out in the Plant
☐ in which **Baur** suggests an alternate to bribing your chlorine supplier.

262 Write On
☐ in which discussion focuses on several aspects of energy.

259 Heart Cut
☐ in which **Durrell** is distiller.

261 Energy Watch
☐ in which **King** worries about what we'll do now that the energy shortage is over—or is it?

IBC Last Word
☐ in which **Jaffe** challenges us with a nutritious crossword puzzle.

258 View from the Top
☐ in which **Commoner** puts another burr under our profession's saddle.

273 Books
☐ in which a book on how to be an industrial chymist is reviewed, and techniques of separating things from stuff are reviewed.

Send all new and renewal subscriptions with payment to: Office of the Controller, 1155 16th St., N.W., Washington, D.C. 20036. Subscriptions should be renewed promptly to avoid a break in the series.

All correspondence and telephone calls regarding changes of address, claims for missing issues, subscription service, the status of records and accounts should be directed to: Manager, Membership and Subscription Services, American Chemical Society, P.O. Box 3337, Columbus, Ohio 43210.

On changes of address, include both old and new addresses with zip code numbers, accompanied by mailing label from a recent issue. Allow four weeks for change to become effective.

Claims for missing numbers will not be allowed (1) if loss was due to failure of notice of change in address to be received before the date specified above, (2) if received more than sixty days from date of issue plus time normally required for postal delivery of journal and claim, or (3) if the reason for the claim is "issue missing from files."

SEND CORRESPONDENCE ON
EDITORIAL MATTERS TO:
DR. B. J. LUBEROFF, EDITOR
CHEMICAL TECHNOLOGY
Bassett Building, Summit, N.J. 07901
(201) 273-4923

SUBSCRIPTION RATES: *Nonmembers*, 1 year \$18.00 plus \$4.00 postage in Canada and PUAS; \$5.00 for all other countries. *3 years* \$40.00 plus \$12.00 postage in Canada and PUAS; plus \$15.00 postage for all other countries.

Members, 1 year \$9.00 plus postage above. *Students*, 1 year \$4.50 plus postage above. Single copies and microfilm available from Special Issues Sales, 1155 16th St., N.W., Washington, D.C. 20036.

Published monthly by the American Chemical Society from 20th and Northampton Sts., Easton, Pa. 18042.

Second Class postage paid at Washington, D.C. and at additional mailing offices. Air freight rates are available on request.

The American Chemical Society assumes no responsibility for the statements and opinions advanced by contributors to its publications.

© Copyright 1974 by the American Chemical Society.

CHEMTECH

The Innovator's Magazine

MAY 1974

**Entrepreneurship is a
commitment to opportunity.
The task of the entrepreneur
is to create and then to
exploit risk.**

Checklist

June 1974, CHEMTECH

- | | | |
|---|--------------------------|--|
| New Horizons in Chemistry | 325 | Jordan contends that things don't happen—people make them happen. Here are his thoughts on what has been and should be happening. |
| ☐ | ☐ | |
| Medical Imprints of Research . . . and the Road Ahead | 332 | The basic vs applied research argument is brought home by Krehl in his discussion of human health and nutrition. |
| ☐ | ☐ | |
| Thinking on Thinking—Part III | 340 | Thought mechanisms that lead us into errors are further explored by Pacifico . Here he considers defining the system we're thinking about and how that determines cause-effect relationships. |
| ☐ | ☐ | |
| An Intern Program for New Professionals | 344 | "Sink or swim" is no longer all the help the new professional gets when he enters industry. Dowbenko describes a working preceptor-intern program. |
| ☐ | ☐ | |
| Growth via Public Ownership: A Case History | 348 | How an idea grows first into a small chemical company and then a large one is traced in Frankel's case history of his firm's maturation. |
| ☐ | ☐ | |
| Spun-Fiber Vegetable Protein Products | 352 | The marriage of fiber technology and food science was an unlikely one but one of necessity if we're to eat. Rosenfield introduces the progeny of this union. |
| ☐ | ☐ | |
| Influence of Emission Controls on Fuel and Lubricant Additives | 356 | "A period of opportunistic volatile change" is what Darling, Snyder, and Wotring foresee in the metamorphosis of the automobile. |
| ☐ | ☐ | |
| Thermodynamics of the Housefly | 366 | Imagine a cylinder with weightless, frictionless piston in which are confined a mole of houseflies . . . Fizz-Loony and Linderstrøm-Lang did. |
| ☐ | ☐ | |
| Modified Silica Gels as Adsorbents and Catalysts | 370 | Silica means many things to many people. Here's Burwell's view of it and its improvement. |
| ☐ | ☐ | |

321 The Industrial Chymist

☐ in which a technique for coping is detailed.

322 View from the Top

☐ in which **Ritterhoff** worries about big industry profits.

323 Heart Cut

☐ in which our third gleaner—**Hughes**—is introduced.

381 Random Samplings

☐ in which **Hahn** tells how to guess the value of the next measurement—with confidence.

325 Energy Watch

☐ in which **King** characterizes the dilemma of the utilities.

384 The Last Word

☐ in which Fulbright-Hays Visiting Professor **Weiss** visits "Africa".

331 Books

☐ in which two inorganic, organo-metallic compendia are reviewed together with a stimulating work on technocracy.

378 Write On

☐ in which we hear from several overseas readers, one with a safety note.

SUBSCRIPTION RATES: *Nonmembers, 1 year \$18.00. Add \$4.00 postage in Canada and PUAS; \$5.00 for other countries. 3 years \$40.00 plus \$12.00 postage in Canada and PUAS; plus \$15.00 postage for all other countries.*

Members, 1 year \$9.00. Add postage above. Students, 1 year \$4.50. Add postage above. Single copies and microfilm available from Special Issues Sales, 1155 16th St., N.W., Washington, D.C. 20036.

Published monthly by the American Chemical Society from 20th and Northampton Sts., Easton, Pa. 18042.

New and renewal subscriptions should be sent with payment to: Controller, 1155 16th St., N.W., Washington, D.C. 20036. Please renew promptly to avoid a break in the series.

All communication regarding changes of address, claims for missing issues, and other subscription service, should be directed to: Manager, Membership and Subscription Services, ACS, P.O. Box 3337, Columbus, Ohio 43210.

On changes of address, include both old and new addresses with zip code numbers, accompanied by mailing label from a recent issue. Allow four weeks for change to become effective.

Claims for missing numbers will not be allowed (1) if loss was due to failure of notice of change in address to be received before the date specified above, (2) if received more than sixty days from date of issue plus time normally required for postal delivery of journal and claim, or (3) if the reason for the claim is "issue missing from files."

Second Class postage paid at Washington, D.C. and at additional mailing offices. Air freight rates are available on request.

The American Chemical Society assumes no responsibility for the statements and opinions advanced by contributors to its publications.

© Copyright 1974 by the American Chemical Society.

EDITORIAL MATTERS SHOULD BE REFERRED TO:

DR. B. J. LUBEROFF, EDITOR
CHEMICAL TECHNOLOGY
Bassett Building, Summit, N.J. 07901
(201) 273-4923

The Innovator's Magazine **JUNE 1977**



Checklist

July 1974, CHEMTECH

A Glimpse of Soviet Life

392

☐

To understand Russian science one must understand Russian scientists. **Salomon** worked with them for a year, at Novosibirsk and thus has some insightful experiences to share.

What Good Are Microcapsules?

397

☐

Fanger answers with a dozen examples from as many fields!

Thinking on Thinking—Part IV

406

☐

Pacifico here concludes his epic on how our minds fool us.

Cost Control through Scope Control

413

☐

The best way to keep a project from getting out of hand is to keep it from getting out of hand—continuously. **Lunger** relates how.

Future Consumption Patterns for EPDM Elastomers

418

☐

There's a lot of elastomer in cars, even beyond the tires. **Keck** shows where ethylene-propylene rubbers fit into this and other growing markets.

The Role of Fillers in Plastics Composites

422

☐

More and more plastic parts contain materials other than "the plastic". The science underlying the technology required to make such things is laid out by **Seymour**.

Coupling Continuous Gas Monitors to Emission Sources

426

☐

Though **Homolya** focuses on air pollution, the techniques he describes are useful wherever one needs to monitor and control gas composition.

Enzyme Engineering—Part IV. Process Engineering for Immobilized Enzyme Systems

434

☐

Here **Vieth and Venkatasubramanian** conclude their look at the promising vistas offered by immobilized enzymes by showing how to design processes around them.

Activating C—H Bonds

445

☐

Some transition metal complexes exhibit the unique chemistry of inserting themselves into pretty ordinary C—H bonds. **Parshall** relates the kinds of things that can be made to happen from there.

385 The Industrial Chymist

☐

in which **Luberoff** wonders how big a company has to be to provide room for personal growth.

387 Heart Cut

☐

in which it's **Pilato, McGrath and Reichle's** turn again

391 View from the Top

☐

in which **Kohnstamm** points out the merits of being an organization man.

386 Eurotech

☐

in which **Sherwood** analyzes the strike by government scientists in Britain.

390 Write On

☐

in which energy is treated poetically, etc.

412 Energy Watch

☐

in which **King** pits Senator Sam against the Consumists.

IBC Books

☐

in which **Weisz** and associates examine zeolites.

OBC Last Word

☐

in which **Farkas** shoots down the Atlantic City ACS meeting, among others.

SUBSCRIPTION RATES: *Members*, 1 year \$9.00. *Non-members*, 1 year \$18.00. Add postage below. *Students*, 1 year \$4.50. Add postage below. Single copies (\$2.00 each) and microfilm available from Special Issues Sales, 1155 16th St., N.W., Washington, D.C. 20036. Add \$4.00 postage in Canada and PUAS; \$5.00 for other countries.

Published monthly by the American Chemical Society from 20th and Northampton Sts., Easton, Pa. 18042.

Send new and renewal subscriptions with payment to: Controller, 1155 16th St., N.W., Washington, D.C. 20036. Renew promptly to avoid a break in the series.

Direct all communication regarding changes of address, claims for missing issues, and other subscription service, to: Manager, Membership and Subscription Services, ACS, P.O. Box 3337, Columbus, Ohio 43210.

On changes of address, include both old and new addresses with zip code numbers, accompanied by mailing label from a recent issue. Allow four weeks for change to become effective.

Claims for missing numbers will not be allowed (1) if loss was due to failure of notice of change in address to be received before the date specified above, (2) if received more than sixty days from date of issue plus time normally required for postal delivery of journal and claim, or (3) if the reason for the claim is "issue missing from files."

Second Class postage paid at Washington, D.C. and at additional mailing offices. Air freight rates are available on request.

The American Chemical Society assumes no responsibility for the statements and opinions advanced by contributors to its publications.

© Copyright 1974 by the American Chemical Society.

EDITORIAL MATTERS SHOULD BE REFERRED TO:

DR. B. J. LUBEROFF, EDITOR
CHEMICAL TECHNOLOGY
Bassett Building, Summit, N.J. 07901
(201) 273-4923

CHEMTECH

The Innovator's Magazine JULY 1991

Cost Control



Checklist

August 1974, CHEMTECH

Acupuncture	458	Bowers provides an authoritative view.
Managing Transformation	464	Running a static company is a whole different thing from managing one dedicated to change. Harvard's Glover shares ideas on the latter, with case histories.
Plant Siting and Pollution Control	468	According to Gushee , Congress' managing air and water is tantamount to its managing land usage . . . interesting.
Starting a Business	471	This systematic approach to see if you've got it and then to show you how to use it was created by Ramsey, Smollen, and Haslett .
True-Position Engineering Drawing	478	Technical types must be visual and verbal. Downs' tools make the former easier.
The Plant Nurse and OSHA	483	R. N. Lee tells us that seeing industrial Nightingales as aspirin dispensers is seeing only a tiny fraction of their modern responsibilities and capabilities.
Mixture Rules and Plastics Composites	486	Nielsen lays out the rules for designing function into plastic composites.
Phenol Pulping—A Potential Sulfur-Free Papermaking Process	490	Paper's one of those change-resistant industries that's really due for a change. Schweers suggests a how.
Planning Manufacturing Capacity	494	Since the almighty buck is the manufacturers' measure of merit, all planning should start and end with it. Rose, Myhre, and Walter's explicit guide to the final step in the capital plan is particularly apropos in this money market.
Linear Free Energy Relationships. Part I: An Entry	502	When a structural parameter can predict not only chemical reactivity but also spectral properties, biological activity, and more, it just might help solve other problems. Charton presents its know-how.

449 The Industrial Chymist



in which means are proposed to avoid another vinyl chloride grief.

452 Energy Watch



in which **King** characterizes crises management D. C. style.

457 View from the Top



in which **Copeland** characterizes the jobs of today's technologist.

450 Heart Cut



in which it's **Durrell's** choice.

453 Guest Editorial



in which **Sawhill** directs his inaugural thoughts to our unprecedented energy dilemma.

512 Last Word



in which **Hruza, Van Praag, and Heinsohn** reduce the mystery of hickory smoked flavor to plain chemistry.

SUBSCRIPTION RATES: *Members, 1 year \$9.00. Non-members, 1 year \$18.00.* Add postage below. *Students 1 year \$4.50.* Add postage below. Single copies (\$2.00 each) and microfilm available from Special Issues Sales, 1155 16th St., N.W., Washington, D.C. 20036. Add \$4.00 postage in Canada and PUAS; \$5.00 for other countries.

Published monthly by the American Chemical Society from 20th and Northampton Sts., Easton, Pa. 18042.

Send new and renewal subscriptions with payment to: Controller, 1155 16th St., N.W., Washington, D.C. 20036. Renew promptly to avoid a break in the series.

Direct all communication regarding changes of address, claims for missing issues, and other subscription service, to: Manager, Membership and Subscription Services, ACS, P.O. Box 3337, Columbus, Ohio 43210.

On changes of address, include both old and new addresses with zip code numbers, accompanied by mailing label from a recent issue. Allow four weeks for change to become effective.

EDITORIAL MATTERS SHOULD BE REFERRED TO:

DR. B. J. LUBEROFF, EDITOR
CHEMICAL TECHNOLOGY
Bassett Building, Summit, N.J. 07901
(201) 273-4923

Claims for missing numbers will not be allowed (1) if loss was due to failure of notice of change in address to be received before the date specified above, (2) if received more than sixty days from date of issue plus time normally required for postal delivery of journal and claim, or (3) if the reason for the claim is "issue missing from files."

Second Class postage paid at Washington, D.C. and at additional mailing offices. Air freight rates are available on request.

The American Chemical Society assumes no responsibility for the statements and opinions advanced by contributors to its publications.

© Copyright 1974 by the American Chemical Society

CHEMTech

The Innovator's Magazine **AUGUST**



Checklist

September 1974, CHEMTECH

- | | | |
|--|--|---|
| A Science Editor's Understanding of Chemistry | 520
☐ | What the public thinks about science and technology is determined by what it reads, which is determined by what Science Editors write. Here's what Grady Medalist, Kotulak , is writing. |
| Scientists in Retirement | 524
☐ | Do scientists do science in retirement because they have no other hobbies or because science has always been their hobby? Rowe set out to find out. |
| Nuclear Fission Energy | 531
☐ | Ever since we published our "anti-nuke" editorial a year ago, we've been seeking a worthy respondent. We feel we found one in Lewis , retired senior vice-president, Atomic Energy of Canada, Ltd. |
| Patent vs. Anti-Trust Law | 537
☐ | This unique insight into the thinking of our new Patent Commissioner, C. M. Dann , is particularly timely as patent law undergoes reevaluation. |
| Radiation Polymerization for Pressure-Sensitive Adhesives | 539
☐ | If you want to get rid of polymerization solvent this case history by Dowbenko et al. might have some clues as to how. |
| Emissions, Energy, and the Economy | 544
☐ | Here's the auto, vintage '75, and how GM President Cole thinks it got that way. |
| The "Hole-in-the-Wall" Problem . . . and a Solution | 547
☐ | Refson noticed that nothing in Nature between celestial bodies and molecules rotates, which suggests why people have problems with rotating equipment. |
| Standby Gas Systems | 552
☐ | Like proper young ladies, plant people, too, know what to do when the gas runs out. Thompson tells what. |
| Adipic Acid in One Step | 555
☐ | Tanaka doesn't say that this process is yet commercial . . . but he doesn't say it isn't. |
| Measuring Diffusion Coefficients with a Gas Chromatograph | 560
☐ | Now, in addition to organikers, we can expect engineers and physical chemists to beg, borrow, and steal the Analytical Labs GC's. Grushka and Maynard have told them what to use 'em for. |
| Deoxygenate Organic Compounds with CO | 566
☐ | It is you know and Iqbal shows how to. |

513 The Industrial Chymist



in which the lone chymist appears to be with us still.

516 Heart Cut



in which **Hughes** returns.

518 View from the Top



in which **Gerstacker** lays MCA's tax and trade position on the line for Congress.

519 Energy Watch



in which **King** calls attention to an interesting exchange of letters between nuclear power experts.

529 Challenge



in which **Ouellette** asks whether environmental standards are dictated by the mind, the body, or the soul.

573 Write On



in which we hear from a consulting logician, among others.

574 Random Samplings



in which **Hahn** cautions that correlation does not always imply causality, so prediction is not the same as control.

IBC The Last Word



in which there are instructions on how to clean a dinosaur.

SUBSCRIPTION RATES: *Members*, 1 year \$9.00. *Non-members*, 1 year \$18.00. Add postage below. *Students* 1 year \$4.50. Add postage below. Single copies (\$2.00 each) and microfilm available from Special Issues Sales, 1155 16th St., N.W., Washington, D.C. 20036. Add \$4.00 postage in Canada and PUAS; \$5.00 for other countries.

Published monthly by the American Chemical Society from 20th and Northampton Sts., Easton, Pa. 18042.

Send new and renewal subscriptions with payment to: Controller, 1155 16th St., N.W., Washington, D.C. 20036. Renew promptly to avoid a break in the series.

Direct all communication regarding changes of address, claims for missing issues, and other subscription service, to: Manager, Membership and Subscription Services, ACS, P.O. Box 3337, Columbus, Ohio 43210.

On changes of address, include both old and new addresses with zip code numbers, accompanied by mailing label from a recent issue. Allow four weeks for change to become effective.

EDITORIAL MATTERS SHOULD BE REFERRED TO:

DR. B. J. LUBEROFF, EDITOR
CHEMICAL TECHNOLOGY
Bassett Building, Summit, N.J. 07901
(201) 273-4923

Claims for missing numbers will not be allowed (1) if loss was due to failure of notice of change in address to be received before the date specified above, (2) if received more than sixty days from date of issue plus time normally required for postal delivery of journal and claim, or (3) if the reason for the claim is "issue missing from files."

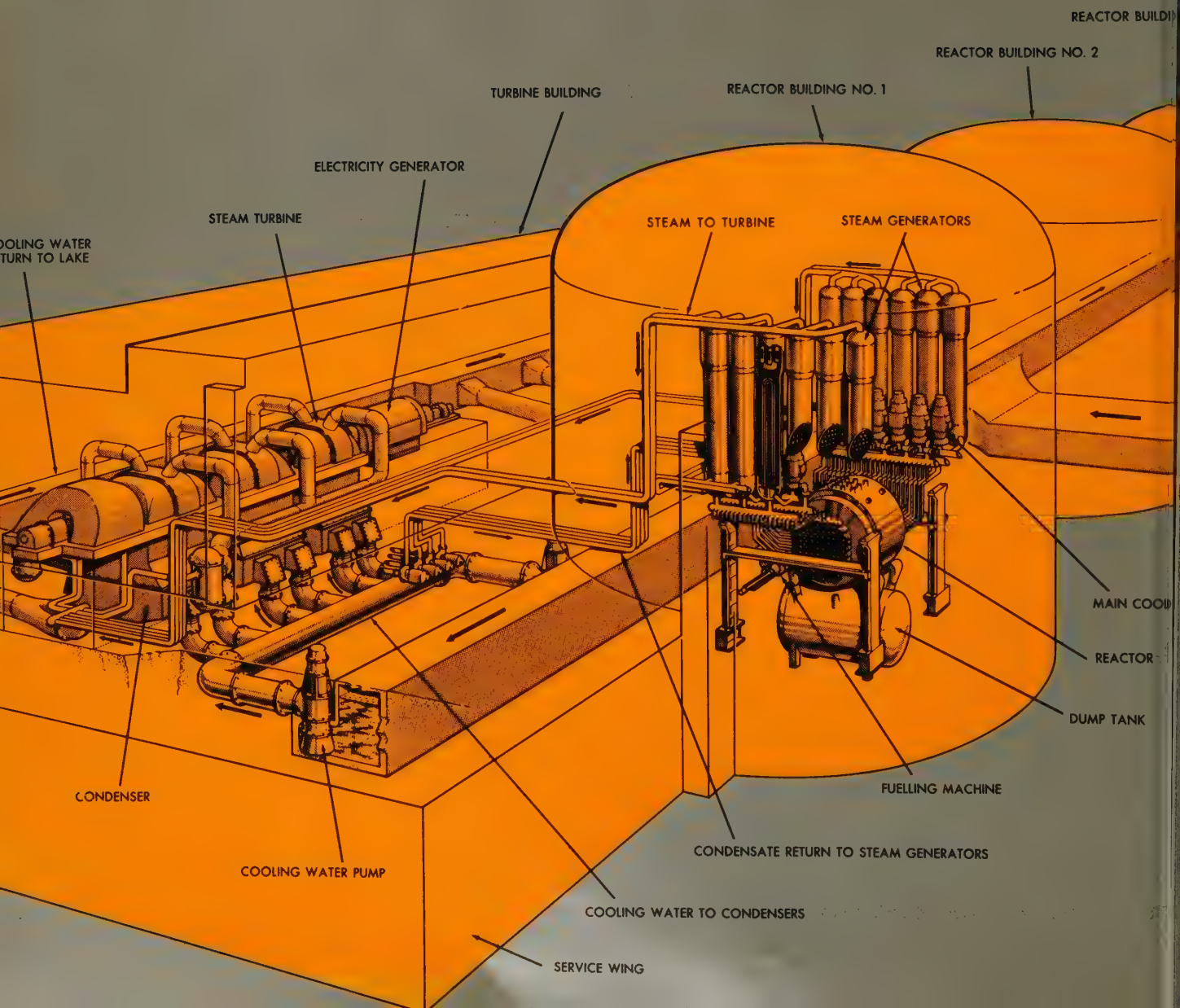
Second Class postage paid at Washington, D.C. and at additional mailing offices. Air freight rates are available on request.

The American Chemical Society assumes no responsibility for the statements and opinions advanced by contributors to its publications.

© Copyright 1974 by the American Chemical Society.

CHEMTECH

The Innovator's Magazine SEPTEMBER 19



Checklist

October 1974 CHEMTECH

- | | | |
|--|------------|--|
| A Chemist in Washington | 584 | What happens when your boss says he thinks you ought to pack up and go to Washington for a while is related by Sak , who's been there. |
| Transportation Innovation | 589 | How we'll get from her to there in the future and what impact it will have on industry and society is assessed by Kovac . |
| Occupational Stress Among Chemists | 596 | Reeves compares job attitudes industrial chemists have with those held by other professionals and finds. . . |
| Recent Stirrings in Control of Chemical Technology: The Case of Nuclear Power | 600 | How nuclear power has been "getting out of hand" and what can be done about it concerns Donnelly . |
| In-House Training for Pollution Control | 605 | Since pollution law is so new, experienced technologists didn't learn to cope with it in school. Where and how they do learn is described by Wallace . |
| Analytical Problem Solving in a Diversified Laboratory | 609 | Shults and White contrast the ideal analytical lab with a real one in the hope of bringing the two into concordance. |
| Processing with Radiation | 612 | Since, by definition, chemical change involves energy change, knowing all the ways to impart energy to systems is crucial. Morganstern thus adds another string to our bows. |
| The Nutritional Value of Vegetable Protein | 616 | The energy inefficiency of a meat diet could fast become a world problem unless some alternate gains acceptance. Hamdy shows how viable the most viable one is. |
| Microencapsulation by Physical Methods | 623 | In July we showed what you can do with microcapsules. Now, Goodwin and Somerville show how. |
| Polypentenamer—An Elastomer Produced by Ring-Expansion Polymerization | 627 | What do you get when you do an olefin disproportionation reaction with a cyclic olefin? Why, you get bigger and bigger cyclic olefins. Hinrichs and Calderon show that they're big enough to be promising elastomers. |
| Fuel Efficiency via the Mass-Energy Balance | 631 | Though we usually know where all our raw materials end up, we seldom know where our fuels go. Austin shows how to find out—systematically—and how to use the result to conserve. |

577 The Industrial Chymist
☐ in which asking is shown to be telling.

580 Energy Watch
☐ in which guest editor **Fialka** assesses government attitudes to the sun.

583 Books
☐ How to Build and Use Electronic Devices without Frustration, Panic, Mountains of Money, or an Engineering Degree Launching the New Product

578 Heart Cut
☐ in which selections were made by **Pilato, McGrath, and Reichle**.

581 View from the Top
☐ in which **Canton** defines the total marketing function

639 The Last Word
☐ in which **Hinz** discusses the whys and wherefores of flu shots.

SUBSCRIPTION RATES: *Members*, 1 year \$9.00. *Non-members*, 1 year \$18.00. Add postage below. *Students* 1 year \$4.50. Add postage below. Single copies (\$2.00 each) and microfilm available from Special Issues Sales, 1155 16th St., N.W., Washington, D.C. 20036. Add \$4.00 postage in Canada and PUAS; \$5.00 for other countries.

Published monthly by the American Chemical Society from 20th and Northampton Sts., Easton, Pa. 18042.

Send new and renewal subscriptions with payment to: Controller, 1155 16th St., N.W., Washington, D.C. 20036. Renew promptly to avoid a break in the series.

Direct all communication regarding changes of address, claims for missing issues, and other subscription service, to: Manager, Membership and Subscription Services, ACS, P.O. Box 3337, Columbus, Ohio 43210.

On changes of address, include both old and new addresses with zip code numbers, accompanied by mailing label from a recent issue. Allow four weeks for change to become effective.

EDITORIAL MATTERS SHOULD BE REFERRED TO:
DR. B. J. LUBEROFF, EDITOR
CHEMICAL TECHNOLOGY
Bassett Building, Summit, N.J. 07901
(201) 273-4923

Claims for missing numbers will not be allowed (1) if loss was due to failure of notice of change in address to be received before the date specified above, (2) if received more than sixty days from date of issue plus time normally required for postal delivery of journal and claim, or (3) if the reason for the claim is "issue missing from files."

Second Class postage paid at Washington, D.C. and at additional mailing offices. Air freight rates are available on request.

The American Chemical Society assumes no responsibility for the statements and opinions advanced by contributors to its publications.

© Copyright 1974 by the American Chemical Society.

CHEMTech

The Innovator's Magazine

OCTOBER 1974

Transportation innovation



Checklist

November 1974, CHEMTECH

- | | | | |
|---|------------|--------------------------|---|
| Energy Consumerism | 648 | ☐ | "Everyone I've talked with—from taxi drivers to consumer groups—feels that this energy thing is an opportunity to make some welcome changes in our life style." Thus does Clemens see things from her vantage point in the Council of Better Business Bureaus. |
| Professional Turnover: Its Costs and Its Avoidance | 651 | ☐ | Employees have two kinds of "experience;" one kind is useful only to the employer who provided it. How to retain this asset and others is what concerns Tingey and Inskeep . |
| The New Bias Toward Inflation | 656 | ☐ | Samuelson originally called this piece <i>Stagflation</i> . Here's what it is and some ideas on how to live with it. |
| Automotive Engines for the 1980's | 660 | ☐ | If the Wankel or Stirling or Diesel or whatever were to displace the Model T engine what would be the impact on the CPI's production of fuels, lubes, materials, catalysts, etc. A background for speculation is provided by Richardson . |
| The European Patent | 670 | ☐ | It's coming and Cramer tells what it will look like. |
| Wrapping Things in Plastics | 677 | ☐ | Hager and Young delineate the differences between shrink and stretch wrap in terms of both material properties and end-uses. |
| Property Variations in Molded Surface | 683 | ☐ | Since the outside of plastics is what we "see" perhaps we should pay more attention to molecular architecture at the surface. Azrak's results bring the point home startlingly. |
| Hazard Classification and Protection | 690 | ☐ | Design in Safety and the process will be safe. Albrecht treats the how-to. |
| Supports for Immobilized Enzymes and Affinity Chromatography | 694 | ☐ | Here's another materials problem that requires appreciation of function—or is it the other way 'round? Royer views it both ways. |

641 The Industrial Chymist



in which are assayed concerns of the most motley technical assemblage ever assembled.

642 Write-On



in which Japanese "patent numbers" are clarified, a humorous exchange is aired, and more.

644 Energy Watch



in which **King** characterizes an R&D project with a billion dollar overrun.

645 Heart Cut



in which **Durrell** relates what in the literature intrigued him recently.

647 View from the Top



in which **Speer** focuses on the most vital resource.

673 Challenge



in which **Fanta, Weaver, and Doane** present technologists with stuff that will imbibe like 500 times its weight of water.

701 Books



in which **Primack** reviews one on "whistle blowing," **Gushee** reviews two new periodicals, and more.

IBC Out in the Plant



in which **Ottenstein** takes the position, "You worked hard to make and calibrate that GC column, so work to preserve it."

OBC The Last Word



in which **Farkas** explains why M.D.'s have it all over chemical types.

SUBSCRIPTION RATES: *Members*, 1 year \$9.00. *Non-members*, 1 year \$18.00. Add postage below. *Students* 1 year \$4.50. Add postage below. Single copies (\$2.00 each) and microfilm available from Special Issues Sales, 1155 16th St., N.W., Washington, D.C. 20036. Add \$4.00 postage in Canada and PUAS; \$5.00 for other countries.

Published monthly by the American Chemical Society from 20th and Northampton Sts., Easton, Pa. 18042.

Send new and renewal subscriptions with payment to: Controller, 1155 16th St., N.W., Washington, D.C. 20036. Renew promptly to avoid a break in the series.

Direct all communication regarding changes of address, claims for missing issues, and other subscription service, to: Manager, Membership and Subscription Services, ACS, P.O. Box 3337, Columbus, Ohio 43210.

On changes of address, include both old and new addresses with zip code numbers, accompanied by mailing label from a recent issue. Allow four weeks for change to become effective.

EDITORIAL MATTERS SHOULD BE REFERRED TO:

DR. B. J. LUBEROFF, EDITOR
CHEMICAL TECHNOLOGY
Bassett Building, Summit, N.J. 07901
(201) 273-4923

Claims for missing numbers will not be allowed (1) if loss was due to failure of notice of change in address to be received before the date specified above, (2) if received more than sixty days from date of issue plus time normally required for postal delivery of journal and claim, or (3) if the reason for the claim is "issue missing from files."

Second Class postage paid at Washington, D.C. and at additional mailing offices. Air freight rates are available on request.

The American Chemical Society assumes no responsibility for the statements and opinions advanced by contributors to its publications.

© Copyright 1974 by the American Chemical Society.

CHEMTech

The Innovator's Magazine

NOVEMBER 1974



Checklist

December 1974, CHEMTECH

The Able Disabled	712	Sears' study of 1452 handicapped workers destroys the myths behind which we hide.
What Are Entrepreneurs Made Of?	716	The peculiar beast called entrepreneur is dissected by Komives .
Technology Assessment in Public Policy	722	Must our technological Society become pathological? Wenk , one of the pioneers of technology assessment, feels that it won't if "... government derives its ... direction from the governed."
IUPAC	726	As the ACS's own Bob Cairns ascends to the Presidency of the International Union of Pure and Applied Chemistry, it is appropriate to read Paul's analysis of this little-understood body.
Outlook for Aromatics	732	Remember when spot benzene just couldn't be had? Understanding components of this kind of situation is imperative if we're to plan around it. Lorenz here provides such understanding, pertinent even at the R&D stage.
The Treatment and Mistreatment of Data	736	With all those dandy variables around to correlate with each other, why do people write papers that correlate variables with themselves? Sherwood wonders, too.
Analysis of PVC Resins	741	Now that we really have to understand PVC, Brookman relates how to. And his philosophy is pertinent to any analytical problem.
Preparation of Polytetramethylene Glycol	744	Matsuda details a new way to make a diol useful in polyesters, urethanes, and the like.
Surface Science and Catalysis	748	Here's part of the reason Boudart has been heard to say, "The only catalysts we can study in the university are the lousy ones."
Fluorinated Compounds of Medicinal Interest	752	Filler surveys the diversity of curative powers that fluorine imparts to compounds but leaves unanswered the question, "If it's so great, why aren't we naturally full of it?"
Perspectives in Stereochemistry	758	1974 marks the centennial of the recognition of carbon's tetrahedral configuration. Elie outlines what's being made of this discovery by looking at the scholarly celebrations held worldwide this year.

705 The Industrial Chymist



in which thoughts of several sages are brought together to form a philosophy for the hard year to come.

706 Energy Watch



in which **Meyers** evaluates the Blueprint for Project Independence.

707 View from the Top



in which **Bailey** kicks off his term as ACS President by recommending employment contracts.

708 Heart Cut



in which are gems collected by **Hughes**.

711 Challenge



in which **Goldman** postulates a chemical theory of memory reasoned from metaphysics.

731 Out in the Plant



in which **Shaw** describes the Velocity Fuse.

750 Books



in which **Wei** concludes that if we really understood the energy problem we wouldn't need more books, and **Perlman** reviews one on microbial processing.

765 Index '74



in which we look back over CHEMTECH's fourth year.

768 The Last Word



in which **Goodman** takes his scotch straight ... with breakfast.

SUBSCRIPTION RATES: *Members*, 1 year \$9.00. *Non-members*, 1 year \$18.00. Add postage below. *Students* 1 year \$4.50. Add postage below. Single copies (\$2.00 each) and microfilm available from Special Issues Sales, 1155 16th St., N.W., Washington, D.C. 20036. Add \$4.00 postage in Canada and PUAS; \$5.00 for other countries.

Published monthly by the American Chemical Society from 20th and Northampton Sts., Easton, Pa. 18042.

Send new and renewal subscriptions with payment to: Controller, 1155 16th St., N.W., Washington, D.C. 20036. Renew promptly to avoid a break in the series.

Direct all communication regarding changes of address, claims for missing issues, and other subscription service, to: Manager, Membership and Subscription Services, ACS, P.O. Box 3337, Columbus, Ohio 43210.

On changes of address, include both old and new addresses with zip code numbers, accompanied by mailing label from a recent issue. Allow four weeks for change to become effective.

EDITORIAL MATTERS SHOULD BE REFERRED TO:

DR. B. J. LUBEROFF, EDITOR
CHEMICAL TECHNOLOGY
Bassett Building, Summit, N.J. 07901
(201) 273-4923

Claims for missing numbers will not be allowed (1) if loss was due to failure of notice of change in address to be received before the date specified above, (2) if received more than sixty days from date of issue plus time normally required for postal delivery of journal and claim, or (3) if the reason for the claim is "issue missing from files."

Second Class postage paid at Washington, D.C. and at additional mailing offices. Air freight rates are available on request.

The American Chemical Society assumes no responsibility for the statements and opinions advanced by contributors to its publications.

© Copyright 1974 by the American Chemical Society.

CHEMTech

The Innovator's Magazine

DECEMBER 1974

**What are
entrepreneurs
made of?**

